

**REMARKS**

**I. Status of the Application.**

Claims 1-19 of the Application were pending as of the date of the Office Action. In the Office Action, the Examiner:

- (a) Withdrew his objection to the drawings;
- (b) Rejected claims 1, 4-6, and 14-16 under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,256,222 to Shepherd et al. ("Shepherd");
- (c) Rejected claims 2-3 under 35 U.S.C. §103(a) as being allegedly obvious over Shepherd in view of U.S. Patent No. 5,505,771 to Chihara et al. ("Chihara");
- (d) Rejected claims 7-10 and 17-19 under 35 U.S.C. §103(a) as being allegedly obvious over Shepherd; and
- (e) Rejected claims 11-13 under 35 U.S.C. §103(a) as being allegedly obvious over Shepherd in view of U.S. Patent No. 4,569,715 to Honda ("Honda");

In this Response, Applicant amends claims 1, 9-10, 14 and 19 and cancels claim 7. Applicant respectfully submits that the foregoing amendments and following remarks incorporated herein overcome the Examiner's rejections of the Application.

**II. Applicant's Amendments Do Not Constitute New Matter.**

Applicant respectfully submits that the amendments to claims 1, 9-10, 14 and 19 do not add new matter to the Application. The amendments to the claims are supported by the figures as originally filed and generally by the original specification. For example, and among other places, the amendments are supported in paragraphs [0042-0046] of the specification. The amendments to claim 9-10 and 19 are only formative in nature to clarify that the claims are

referring to the thickness of the claimed die exit and the amendments to claims 1 and 14 are made to further clarify the claimed invention. For the above-listed reasons, Applicant respectfully submits that all the amendments are supported by the specification, as originally filed, and do not constitute new matter. Accordingly, Applicant respectfully requests entry of these amendments.

**III. The Rejection of Claims 1, 4-6, and 14-16 Under 35 U.S.C. §102(b) as Being Anticipated By Shepherd Should Be Withdrawn.**

Applicant respectfully submits that the rejections of claims 1, 4-6 and 14-16 under 35 U.S.C. §102(b) should be withdrawn because Shepherd does not disclose all the limitations of claims 1, 4-6, and 14-16. A rejection under 102(b) can be overcome by showing that the prior art does not disclose all the limitations of the claims. MPEP §706.02(b). Despite the discussed differences between the claims of the subject invention and Shepherd in the Applicant's previous response, the Examiner has maintained the rejections under 35 U.S.C. §102(b) based on a "broad interpretation" of the inlets (26, 28, and 30) of Shepherd as being the claimed secondary inlets of claim 1. (Office Action, p. 3). Applicant respectfully disagrees with this conclusion and submits that Shepherd only discloses inlets (26, 28, and 30) connected to a mixer. (See Fig. 3). In contrast, Applicant has amended claim 1 in order to specify that the "extrusion die has secondary inlets connected thereto for the introduction of the gypsum ingredients directly to the extrusion die." As noted by the Examiner, all ingredients in Shepherd pass from inlets 26, 28, and 30 into the mixer, prior to being passed through the feed hopper 32. (Office Action, p. 3). Thus, the inlets of Shepherd differ from the claimed "secondary inlets" of claim 1 because the inlets of

Shepherd are not connected to the extrusion die and do not allow for ingredients to be introduced directly to the extrusion die.

Moreover, Applicant respectfully submits that Shepherd does not disclose "an extrusion die comprising . . . a die exit (that) is dimensioned to have a ratio of width to thickness of 48:1 to about 216:1, so that a slurry passing through the extrusion die is extruded at a substantially similar thickness and width of the finished gypsum wallboard", as claimed in claim 1. Applicant respectfully submits that the Examiner acknowledges that this limitation is not disclosed by Shepherd because the Examiner did not reject claim 7 under 35 U.S.C. §102(b) as being anticipated by Shepherd. Accordingly, Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Shepherd should be withdrawn.

Shepherd also does not disclose "an extrusion die comprising . . . a die exit . . . wherein . . . the die exit is dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core," as claimed claim 14. The Examiner maintained his rejection under 35 U.S.C. §102(b) based on his objection to the use of the term "substantially identical" and his view that the "materials worked upon are viewed as a recitation of intended use and bear no weight to the structural limitations of the apparatus." (Office Action, p. 3). In the amendments to claim 14, the Applicant replaces the objected claim language with "substantially similar" and clarifies that the die exit is dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core (i.e., the resulting product produced from the use of this apparatus).

As explained in the Application, the major benefit of such a die is to use it to extrude the material with the near dimensions of the finished product in order to streamline the manufacturing process. (Application, Para. [0044]). In contrast, Shepherd utilizes a feed hopper 32 that is not "dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core", as claimed in claim 14. Rather, as shown in Figure 3, the dimensions of the feed hopper of Shepherd are not substantially similar to the final produced wallboard. As explained in Shepherd, mixture 12 exits the hopper 32 uniformly across the width of the web 34, is consolidated to an initial thickness by the rolls 46 and 48 and then is consolidated to the desired thickness and density (i.e., the thickness of the final wallboard) by press rolls 54 and 56. (Col. 6, ll. 10-24). If the feed hopper was "dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core", Shepherd would not need rolls 46 and 48 and press rolls 54 and 56 to compact the mixture to the desired thickness. Accordingly, Applicant respectfully submits that Shepherd does not disclose the claimed extrusion die with a die exit that "is dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core", as claimed in claim 14, because Shepherd requires rolls 46 and 48 and press rolls 54 and 56 to compact the mixture to the desired thickness.

Accordingly, Applicant respectfully submits that the rejections of claims 1 and 14 under 35 U.S.C. §102(b) as being anticipated by Shepherd should be withdrawn because Shepherd does not disclose all the limitations of claims 1 and 14. Moreover, Applicant respectfully submits that the rejection of claims 4-6 and 15-16 under 35 U.S.C. §102(b) as being anticipated by Shepherd

should be withdrawn because claims 4-6 and 15-16 depend from and incorporate all the limitations of claim 1 and claim 14, respectively.

**IV. The Rejections of Claims 2-3, Claims 7-10, Claims 11-13, And Claims 17-19 Under 35 U.S.C. §103(a) Should Be Withdrawn.**

Applicant respectfully submits that the rejection of claims 2-3, 7-10, 11-13, and 17-19 under 35 U.S.C. §103(a) should also be withdrawn because each of these claims depend from an allowable base claim. Three criteria must be met to establish a *prima facie* case of obviousness: (i) there must be some suggestion or motivation to combine the teachings of two or more prior art references; (ii) there must be a reasonable expectation of success; and (iii) "all of the claim limitations must be taught or suggested by the prior art." MPEP §§ 2143 and 2143.03 (citing *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974)). "If an independent claim is not obvious under 35 U.S.C. §103, then any claim depending therefrom is not obvious." MPEP 2143.03 (citing *In re Fine*, 837 F.2d 1382, 1385 (C.C.P.A. 1970)).

**A. The Rejection of Claims 2-3 Under 35 U.S.C. §103(a) As Being Obvious Over Shepherd In View Of Chihara Should Be Withdrawn.**

Applicant respectfully submits that the rejection of claims 2-3 under 35 U.S.C. §103(a) as being obvious over Shepherd in view of Chihara should be withdrawn because the claims depend from an allowable base claim. Applicant respectfully submits that neither Shepherd nor Chihara disclose, teach or suggest an "extrusion die (that) has secondary inlets connected thereto for the introduction of the gypsum ingredients directly to the extrusion die", as claimed in claim 1. Moreover, Applicant respectfully submits neither Shepherd nor Chihara teach or suggest "an extrusion die comprising . . . a die exit (that) is dimensioned to have a ratio of width to thickness

of 48:1 to about 216:1", as claimed in claim 1. Applicant respectfully submits that the rejection of claims 2-3 under 35 U.S.C. §103(a) as being obvious over Shepherd in view of Chihara should be withdrawn because the claims depend from allowable base claim 1.

B. The Rejection of Claims 7-10 And 17-19 Under 35 U.S.C. §103(a) As Being Obvious Over Shepherd Should Also Be Withdrawn.

Applicant respectfully submits that the rejections of claims 7-10 and 17-19 under 35 U.S.C. §103(a) should be withdrawn because each of these claims depend from an allowable base claim. Claim 1 has been amended to incorporate the limitations of dependent claim 7 which the Examiner maintained his rejection of as allegedly being obvious over Shepherd. Applicant respectfully disagrees with the conclusion that Shepherd discloses, teaches or suggests "an extrusion die comprising . . . a die exit (that) is dimensioned to have a ratio of width to thickness of about 48:1 to about 216:1, so that a slurry passing through the extrusion die is extruded at a substantially similar thickness and width to that of the finished gypsum wallboard core", as claimed in claim 1. The cited language of Shepherd states:

After drying, the board is ready for use as an interior wallboard. The flexural strength of the core material itself will be at least about 20 pounds as measured by ASTM C-473 on the basis of material ½ inch thick and 4 inches wide with a 3 inch span. The flexural strength of a faced product will generally be at least about 40 pounds in the width direction of the product and 110 pounds in the length direction, measured on samples ½ inch thick and 12 inches wide, with a span of 14 inches. (Col. 8, ll. 44-54).

This portion of Shepherd discloses typical measurements of a test piece of wallboard. However, Applicant respectfully submits that claim 1 is not claiming a piece of wallboard with such dimensions but rather, is claiming an "**extrusion die** comprising a . . . **die exit** (that) is dimensioned to have a ratio of width to thickness of about 48:1 to about 216:1, so that a slurry



passing through the extrusion die is extruded at a substantially similar thickness and width of the finished gypsum wallboard."

Applicant respectfully submits that nothing in Shepherd discloses, teaches or suggests such an **extrusion die**. Rather, as explained above, Shepherd discloses, teaches and suggests utilizing a feed hopper 32 that causes the mixture 12 that passes through the feed hopper to be extruded onto the web at a thickness greater than the final produced board, which is evident by the use of rolls 46 and 48 and press rolls 54 and 56 to compact the mixture to the desired thickness to produce the final board. (Col. 6, ll. 10-24). Thus, the feed hopper of 32 does not disclose, teach, or suggest a die exit that "is dimensioned to have a ratio of width to thickness of about 48:1 to about 216:1, so that a slurry passing through the extrusion die is extruded at a substantially similar thickness and width of the finished gypsum wallboard."

Moreover, as noted above, Applicant respectfully submits that Shepherd does not disclose, teach or suggest "an **extrusion die** . . . (with) at least one secondary inlet connected thereto for the introduction of the gypsum ingredients directly to the extrusion die", as claimed in claim 1. As noted in the Application, secondary inlets connected to the extrusion die allow for ingredients to be added to the slurry as it passes through the die. (Application, para. [0046]). Shepherd discloses, teaches and suggests only having inlets connected to the mixer (not connected to an extrusion die) so that all ingredients that pass through the inlets are mixed prior to passing through the feed hopper. Thus, Applicant respectfully submits that Shepherd does not disclose, teach, or suggest the claimed secondary inlets of claim 1. Accordingly, Applicant

respectfully submits that the rejection of claims 7-10 under 35 U.S.C. §103(a) as being obvious over Shepherd should be withdrawn because these claims depend from allowable base claim 1.

Similarly, Applicant respectfully submits that Shepherd does not disclose, teach or suggest "an **extrusion die** having . . . a **die exit** dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core", as claimed in claim 14. As discussed above, Shepherd discloses, teaches and suggests a feed hopper 32 that causes the mixture 12 that passes through the feed hopper to be extruded onto the web at a thickness greater than the final produced board, which is evident by the use of rolls 46 and 48 and press rolls 54 and 56 to compact the mixture to the desired thickness to produce the final board. (Col. 6, ll. 10-24). In contrast, the claimed invention of claim 14 claims an extrusion die with "a die exit dimensioned to have a cross-section that is substantially similar to the dimensions of the finished gypsum wallboard core." Accordingly, Applicant respectfully submits that the rejection of claims 17-19 under 35 U.S.C. §103(a) as being obvious over Shepherd should be withdrawn because claims 17-19 depend from allowable base claim 14.

C. The Rejection of Claims 11-13 Under 35 U.S.C. §103(a) As Being Obvious Over Shepherd In View of Honda Should Be Withdrawn.

Applicant respectfully submits that the rejection of claims 11-13 under 35 U.S.C. §103(a) as being obvious over Shepherd in view of Honda should also be withdrawn because the claims depend from allowable base claim 1. Neither Shepherd nor Honda disclose, teach or suggest an "**extrusion die** comprising a . . . **die exit** (that) is dimensioned to have a ratio of width to thickness of about 48:1 to about 216:1, so that a slurry passing through the extrusion die is extruded at a substantially similar thickness and width to that of the finished gypsum wallboard



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core", as claimed in claim 1. Moreover, neither Shepherd nor Honda disclose, teach or suggest "an **extrusion die** . . . (with) at least one secondary inlet connected thereto for the introduction of the gypsum ingredients directly to the extrusion die", as claimed in claim 1. Accordingly, Applicant respectfully submits that the rejection of claims 11-13 under 35 U.S.C. §103(a) as being obvious over Shepherd should be withdrawn because claims 11-13 depend from allowable base claim 1.

**V. Applicant Petitions for An Extension of Time of One (1) Month.**

Applicant hereby petitions for an extension of time of one (1) month, under 37 C.F.R. § 1.136(a), thereby extending the deadline for response to Tuesday, September 6, 2005. Applicant encloses a check that includes the RCE filing fee of \$790.00 and the \$120.00 extension fee for payment for this extension.

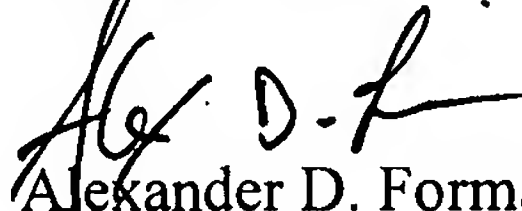
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**CONCLUSION**

For all of the foregoing reasons, it is respectfully submitted that claims 1-6 and 8-19 are allowable claims. Allowance of this Application is therefore respectfully requested. In the event Applicant has inadvertently overlooked the need for payment of any fees, Applicant conditionally petitions therefore, and authorize any deficiency to be charged to deposit account 09-0007. When doing so, please reference the above-listed docket number.

Respectfully submitted,

ICE MILLER



Alexander D. Forman, 51,691

ICE MILLER

One American Square, Box 82001

Indianapolis, IN 46282-0200

Telephone: (317) 236-5826

Facsimile: (317) 592-5433

Date: 8/23/05

ADF

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